

# PREPAREDNESS: ALIGNING OUTCOMES AND OUTLAYS

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## Abstract

*Preparedness of the Armed Forces to execute the assigned missions to engage, deter adversaries and, if necessary, fight to secure and promote National security objectives, presupposes desired joint and single service capabilities. These **capabilities, in turn, need to be crafted through sophisticated long term defence planning, underwritten by affordable budgets.** For over three decades India's defence enterprise has groped unsuccessfully with its defence conundrum, supposedly "arming without aiming". This article traces the systemic irresoluteness in India's approach to long term defence planning and budgeting, contrasting it with best practices, and **offers pathways to ensure joint capability building by suggesting pragmatic pathways towards force structuring, modernisation, readiness and sustenance, underwritten by budgetary strategies to deliver the desired outcomes.***

Resurgent India's stature as an influential global power with geo-economic and geopolitical heft in the emerging global order, brooks no argument. India's national interests span continents. Therefore, the capabilities of **India's military instrument, the 3rd largest in the world, must buttress the economic, diplomatic, informational, technological and political instruments of State power.** Defence modernisation in India's neighbourhood is continuing at an unprecedented scale and pace,

punctuated by **military stand-offs and crises**, spurring fielding of new weapons and capabilities by adversaries. Our adversaries are also leveraging grey zone activities, cyber operations, influence operations, together with economic measures, making **coercive attempts to further their strategic national interests, without provoking conflict**. Sharing two long disputed borders with nuclear armed neighbours makes India's predicament extremely peculiar. Our armed forces, therefore, must **be prepared to shape the security environment, engage, deter, constrain and defeat the proximate and immediate threats to the National Interests "now", while concurrently modernising to meet the multi-domain challenges of "tomorrow"**. This dilemma of twin demands for substantive resources, has remained an endemic challenge for India, as for most Nations.

### **Defence Planning- Aligning Outcomes and Capability Development (CD)**

**Preparedness is about whether the forces can accomplish their missions.** Preparedness audits must lead to resource informed trade-off decisions, *balancing the four elements of capability*<sup>1</sup>: **readiness, sustainability, force structures and modernisation.** Defence planning essentially puts together the political/military objectives (ends) and a strategy (ways & means). The **ends are decided by the politicians based on National Interests** (eg sovereignty, territorial integrity, domestic cohesion/peace/stability etc). Military planners **recommend how the forces (means) will be used to accomplish the ends** and the **politicians approve the ways (eg deterrence by punishment or denial, defence postures, proactive operations, military coercion, balance between continental threats (now) vs growing maritime concerns, sea control or denial, etc).** Plausible scenarios are chosen to outline the security environment, challenges and threats. Thereafter, **full spectrum missions and objectives are arrived at, which help derive capabilities over pragmatic time-frames needed to field new force structures,**

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1 United States General Accounting Office, Measuring Military Capability: Progress, Problems, and Future Direction, Feb 1986, <https://www.gao.gov/assets/nsiad-86-72.pdf>

*doctrines and weapon systems. Shortfall between the required forces and funds creates capability gaps. To mitigate the associated risks, the planners prioritise competing requirements to deliver a cost-effective force, capable of accomplishing missions with acceptable risks. Regrettably, sometimes planners ignore the risks, downplaying the likelihood or the severity of impact of certain scenarios. CD is a dynamic process and the bottom line is that the ends, ways and means must be aligned iteratively, as shown below:*

Objectives->Strategy (ways & means)->Capabilities->Gaps->Risks->Objectives

### Approaches to Long Term CD

There are several approaches to defence planning and each can be used independently<sup>2</sup>. However, In practice, long term defence planning invariably employs a combination of a few approaches described below:

- **Resource-Constrained planning.** The objective is to provide a viable capability that is *sustainable within the provided budget*.
- **Technology Driven.** The goal is to obtain operational and *strategic superiority through technology*. New technology is integrated as soon as available.
- **Risk Avoidance.** Traditional and *proven concepts and structures are extrapolated and current ways continue. Defence development adheres to current strategy, doctrines and structure and incorporates new technology, when proven and available*.
- **Incremental Planning.** Existing capabilities form the foundation of *new capabilities. It aims to evolve new capabilities with proven improvements over existing capabilities*, exploiting near-term options, **avoiding risks**.

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<sup>2</sup> Bent Erik Bakken, “Handbook on Long Term Defence Planning”, NATO RTO-TR-069 AC/323(SAS-025)TP/41, RTO Studies, Analysis and Simulation Panel (SAS), April 2003

- **Capability-based Planning.** This is performed in the absence of *specific threats or conditions and entails analysis of likely future operations*. Defence capabilities are identified based on the mission(s). *The outcome is not concrete weapons systems and manning levels, but a description of the tasks to be performed in generic capability terms*. Thereafter, *the most cost-effective physical force option to implement these capabilities is derived*.
- **Scenario Based Planning.** This approach utilises credible environmental and operational *scenarios for assessing capability or system requirements against mission objectives*.
- **Threat Based Planning.** Capabilities of potential adversaries are evaluated with a *view to outperform them* using *quantitative and qualitative solutions*, a common approach during the Cold War. It is akin to scenario-based planning though *non-threat scenarios (eg humanitarian assistance) are excluded*.

Planners are invariably *caught in dilemma* to *address the proximate threats with higher confidence levels (proven systems) or to accept risks and opt for alternatives which may impose time, cost and even performance penalties*.

### Long Term Defence Planning in India

On independence, the Blackett Report of 1948<sup>3</sup> formed the basis of defence planning. Post the 1962 debacle, defence planning has witnessed several fledgling attempts to usher a disciplined approach, inter-ministerial collaboration and bureaucratic/political oversight. A **Defence Planning Cell** (Post 1962) within the Ministry of Defence (MoD) was followed by creation of a **Committee for Defence Planning (CDP)** under the **Cabinet Secretary in 1977**. The Directorate General of Defence Planning Staff

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3 PMS Blackett, Scientific Problem of Defence in Relation to the Indian Armed Forces: A Report to the Hon'ble the Defence Minister (New Delhi, 10 Sep. 1948)

(DGDPS), with members from other ministries, was later created under the Chiefs of Staff Committee (COSC) in 1986. With an expansive mandate to arrive at *balanced force levels to achieve military aims, perspective planning for 15/20 years*<sup>4</sup>, the *structure proved sub-optimal*<sup>5</sup>. Consequent to the Public Account Committee in 1989, MoD's defence procurement guidelines in 1992 *embryonically embraced the concept of a long term perspective plan*<sup>6</sup>. However, the measures remained suboptimal. Analysing India's external security problems and the responsibility for responding to these, *for the period 1947 to 1992, Chris Smith concluded that it is not a well-informed or streamlined decision-making process; the key actors are various and common interests few and far between; despite institutionalised rolling five-year defence plans, the process is chaotic and weapons are procured as much on an ad-hoc basis as on the strength of informed debate and planning.*<sup>7</sup>

The Kargil conflict of 1999 provided the next course correction. The Group of Ministers (GoM) Report (2001)<sup>8</sup> lamented *the absence of a National Security Strategy (NSS), non-commitment of funds beyond the FY and lack of inter-Service prioritisation*. It recommended the creation of a Chief of Defence Staff (CDS) with staff *to prepare a Long Term Defence Perspective Plan for 15-20 years, including Inter-Service prioritisation and a Joint Services Plan; a firm indication of the availability of financial resources for the period of 5 years* by the Ministry of Finance (MoF)<sup>9</sup>. Post creation of Head Quarters Integrated Defence Staff (HQ IDS) in 2001, the DGDPS was dissolved. The *first ever LTIPP (2002-17) was revised in 2007 to cover the period 2007-22, due to the shift from Equipment based approach to Capability*

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4 Laxman Kumar Behera, Defence Planning in India, Journal of Defence Studies, IDSA, Vol 4, No 3, July 2010, pp 127-129; [https://www.idsa.in/system/files/jds\\_4\\_3\\_lkbehera.pdf](https://www.idsa.in/system/files/jds_4_3_lkbehera.pdf)

5 *ibid*

6 Committee of Experts for Amendment to DPP-2013 Including formulation of policy framework, July 2015, <https://www.mod.gov.in/sites/default/files/Reportddp.pdf>

7 Chris Smith, "India's Ad Hoc Arsenal Direction or Drift in Defence Policy?", SIPRI, Oxford University Press, 1994, p. 2

8 "Reforming the National Security System", Recommendations of the Group of Ministers, February 2001, p. 98.

9 *ibid*

**based approach, adopted by the MoD in June 2006<sup>10</sup>. The MoD averred adherence to a ‘Top Down’ approach by articulating NSS, National Military Strategy(NMS) and Military Security Objectives(MSO), for the first time<sup>11</sup>. In 2013, HQ IDS commenced promulgation of a Technology Perspective and Capability Roadmap (TPCR) spanning 15 years, to align the R&D efforts and the industry. The last one was issued in 2018 which covers the period up to late 2020s.<sup>12</sup>**

**In April, 2018, Defence Planning Committee (DPC) was created under the chairmanship of the National Security Adviser (NSA), intended to “facilitate a comprehensive and integrated planning for defence”<sup>13</sup>. It has four subcommittees: Policy and Strategy; Plans and Capability Development; Defence Diplomacy and Defence Manufacturing Eco-System. Its charter includes, inter alia, defence planning, defence acquisition and infrastructure development plans, including the 15-year LTIPP. It has been mandated to prepare several draft documents including NSS and Prioritised CD plans for the Armed Forces, in consonance with the likely resource flows<sup>14</sup>.**

On creation of the Niti Ayog in 2015, the 13th Plan (2017-22) was dropped. However, **the MoD prepared the Defence Plan for 2017-22 internally. DAP-2020 outlines a modified the LTIPP process,<sup>15</sup> which would evolve from the NSS/Guidelines (when promulgated) and Raksha Mantri’s Operational Directive. The horizon has been shortened to a 10 years Integrated Capability Development Plan (ICDP), comprising of two five-year plans, prepared by HQ IDS every**

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10 Standing Committee on Defence (2006-07), Ministry of Defence, 14th Lok Sabha, Demands for Grants 2007-08, 16th Report, Lok Sabha Secretariat, New Delhi, pp 46-47; [https://eparlib.nic.in/bitstream/123456789/62683/1/14\\_Defence\\_16.pdf](https://eparlib.nic.in/bitstream/123456789/62683/1/14_Defence_16.pdf)

11 ibid

12 Technology Perspective and Capability Roadmap; <https://www.mod.gov.in/sites/default/files/tpcr.pdf>

13 SP Das, Creation of Defence Planning Committee: A Bold Step towards Defence Preparedness, CLAWS, Issue Brief, No 143, June 2018; [https://www.claws.in/static/IB143\\_Creation-of-Defence-Planning-Committee-A-Bold-Step-towards-Defence-Preparedness.pdf](https://www.claws.in/static/IB143_Creation-of-Defence-Planning-Committee-A-Bold-Step-towards-Defence-Preparedness.pdf)

14 ibid

15 Defence Acquisition Procedure 2020, Government of India, Ministry of Defence, 30 Sep 2020, pp 6-8; mod.nic.in



**5 years.** A five years Defence Capital Acquisition Plan (DCAP) is to be prepared by HQ IDS *based on recommendations of Services HQ*, considering *prioritised operational requirements*. Both ICDP and DCAP are to be approved by the Defence Acquisition Council (DAC). A *two years Roll-On Annual Acquisition Plan (AAP)*, as in vogue, will be prepared by the SHQ, based on the DCAP. *The consolidated AAP, listing prioritised schemes, will conform to the yearly financial limits indicated by MoD (Finance). AAP will be approved by the Defence Procurement Board (DPB).* Part A of the AAP will contain a list of carry-over acquisition proposals accorded **Acceptance of Necessity (AoN)** the previous year and those for which AoN has been accorded during the year. *Part B will include acquisition proposals likely to be accorded AoN in the forthcoming year.* Emergent requirements may be included in AAP on approval of the DPB.

The CDS, created in Jan 2020, in his capacity as the **Permanent Chairman COSC**, has been mandated<sup>16</sup> to implement the DCAP and AAP and assign *inter-Services prioritise* within the *anticipated yearly budget*.

### Long Term CD- The Process

India's current LTIPP (2012-2027), was believed to be amounting to over \$223 Billion in 2016<sup>17</sup>, 4 years after its formulation. Despite the *proclaimed shift to a Capability based approach in 2006, in absence of a NSS and planning guidelines*, the extant plan is a *mere listing of the wish lists of the three Services, with no priorities*. The inefficient process has drawn wide criticism, including from a former Chief of the Indian Navy<sup>18</sup>. Since the mechanics of the process under evolution by

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16 Cabinet approves creation of the post of Chief of Defence Staff in the rank of four star General, Press Information Bureau, Government of India, 24 Dec 2019; <https://pib.gov.in/PressReleaseDetail.aspx?PRID=1597425>

17 Vivek Raghuvanshi, "Source: India Needs \$233B in Next 11 Years To Buy Weapons", DefenseNews, 8 September 2016, <https://www.defensenews.com/global/asia-pacific/2016/09/08/source-india-needs-233b-in-next-11-years-to-buy-weapons/>

18 Arun Prakash, "India's higher Defence Organisation: Implications for National Security and Jointness", Journal of Defence Studies, Vol. 1, No. 1, August 2007, p.28

**HQ IDS - Integrated Capability Development System (ICADS)**, are not available in public domain, *a process used by NATO countries, could serve as a frame of reference*<sup>19</sup>. Though *capability requirements would be different for each force/Nation, given the nuanced contexts, joint capabilities functions* invariably include Command and Control (C2), manoeuvre, firepower, protection, intelligence, information and sustainment<sup>20</sup>. Capabilities are a product of doctrines, organisation, training, equipment, leadership and personnel. *Capability requirement determination answers the questions, “what” and “how much” for each required capability*<sup>21</sup>. The next step identifies capabilities which are **short, sufficient, or redundant**. For addressing the gaps, **non-material options are explored, followed by material (equipment) requirements**<sup>22</sup>. This **process is executed iteratively, till acceptance of risks by the politicians, where gaps still exist**<sup>23</sup>. Prioritised options to fill the capability gaps are then compiled in a long term plan.

### **The Australian Model for CD<sup>24</sup> & Challenges**

Since 2016, Australia follows a 10 Year funding model which provides long-term funding certainty to deliver the **Force Structure Plan (5 years), presented by the Prime Minister**. For the decade 2020-2030, the funding of \$575 billion includes approximately **\$270 billion for CD**. The **Force Structure Plan outlines modernisation programs over a 20 year timeframe, based on cost modelling tools**. The Capability priorities and outlays, by themes, are spelt out unambiguously for five war fighting

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19 Dejan Stojkovic and Bjørn Robert Dahl, “Methodology for long term defence planning”, Norwegian Defence Research Establishment (FFI) 28 February 2007, ISBN 978-82-464-1147-7, <https://publications.ffi.no/nb/item/asset/dspace:3318/07-00600.pdf>

20 Thomas Crosbie, Getting the Joint Functions Right, JFQ 94, 3rd Quarter 2019, [https://ndu-press.ndu.edu/Portals/68/Documents/jfq/jfq-94/jfq-94\\_108-112\\_Crosbie.pdf?ver=2019-07-25-162025-397](https://ndu-press.ndu.edu/Portals/68/Documents/jfq/jfq-94/jfq-94_108-112_Crosbie.pdf?ver=2019-07-25-162025-397)

21 Dejan, op.cit.

22 Dejan, op.cit.

23 ibid

24 Australian Government, DoD, “2020 Force Structure Plan”, Commonwealth of Australia 2020 ISBN: 978-0-9941680-6-1, [https://www1.defence.gov.au/sites/default/files/2020-11/2020\\_Force\\_Structure\\_Plan.pdf](https://www1.defence.gov.au/sites/default/files/2020-11/2020_Force_Structure_Plan.pdf), accessed on 25 July 2021



domains and the Forces-wide Enterprise<sup>25</sup>. Besides allotting 72% between Land, Sea and Air domains, Australia has allotted 6% to Information and Cyber Domain, 3% to Space domain, 2% to ICT (Joint Cyber, EW, ISR, Strat Int & C4) and 6% to Armed Forces wide Enabler Programs, **across 35 capability programs**<sup>26</sup>. Its ***Defence Portfolio Budget Statements 2020-21***<sup>27</sup>, describe the budget initiatives and appropriations by outcomes and programs, domain wise. Australia has its challenges, too, and **plans to reduce the outgo on workforce from 32% to 26% between 2021 to 2030**, and increase the **outgo on acquisitions from 34% to 40%**. Australia uses an **Integrated Investment Program (IIP)** approach to **plan and deliver capability and its sustainment over long time frames to manage budget risks**<sup>28</sup>.

### The US Model for CD & Challenges

**For the Fiscal Year (FY) 2022, the modernisation funding request is \$245.6 billion, which includes \$133.6 billion for Procurement and \$112.0 billion for RDT&E.** Besides the traditional capabilities like aircraft, ships, land systems, niche capabilities have been allotted a fair share-**space (9%), C4I systems (5%), missiles and munitions (8%), Missile defence (4%) and S&T (6%)**.<sup>29</sup> However, even the country with the largest defence expenditure is grappling with military budgetary woes. Mackenzie Eaglen<sup>30</sup> has **argued that without tackling the modernisation challenge, the DoD will remain stuck in an acquisition death spiral. The O&M costs have crowded out modernisation. Compared to 1986, the FY21 military personnel budget remains roughly comparable, ironically for a smaller force.**

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25 2020 Defence Strategic Update, Australian Government, Department of Defence, Commonwealth of Australia 2020 ISBN: 978-1-925890-26-6

26 ibid

27 Budget Related Paper No. 1.3A, Defence Portfolio, accessed on 25 Jul 2021, [https://www.defence.gov.au/Budget/20-21/2020-21\\_Defence\\_PBS\\_00\\_Complete.pdf](https://www.defence.gov.au/Budget/20-21/2020-21_Defence_PBS_00_Complete.pdf)

28 [https://www1.defence.gov.au/sites/default/files/2020-11/Factsheet\\_Budget.pdf](https://www1.defence.gov.au/sites/default/files/2020-11/Factsheet_Budget.pdf)

29 Program Acquisition Cost By Weapon System, US DoD, FY 2022 Budget Request, Office of the Under-Secretary For Defence, Comptroller/Chief Financial Officer, May 2021

30 Mackenzie Eaglen with Hallie Coyne, The 2020s Tri-Service Modernization Crunch, American Enterprise Institute for Public Policy Research, March 2021, <https://www.aei.org/wp-content/uploads/2021/03/The-2020s-Tri-Service-Modernization-Crunch-1.pdf?x91208>

Category	Reagan Modernisation 1986	Modernisation FY 2021
Military Personnel	28.81%	24.37%
Ops & Maint	28.41%	40.63%
Procurement	28.36%	19.20%
RDT&E	10.70%	14.93%
Construction, Housing & Others	3.72%	0.87%

To rectify end strength shrinkage and atrophied readiness (due to focus on two decades of Counter Insurgency operations), Eaglen has **recommended** enhanced investments, *including the option of using Defence Working Capital Funds (refundable funds) for modernisation*; seeking more conservative cost estimates; *ensuring that new programs are more upgradeable; fielding innovative technologies faster and restoring readiness selectively*<sup>31</sup>. *These measures are instructive.*

### UK Approach to Modernisation and CD

UK follows integrated planning and the Defence Command Paper 2021<sup>32</sup>, succinctly states that **modernisation aims to make the armed forces more agile, lethal and integrated, investing funds to improve readiness, resilience and sustainability, through an “Integrating Operating Concept”**. R&D spending, experimentation and investments in **transformative and digital capabilities** are proposed to **enable multi-domain integration to compete more effectively in space and cyberspace**. Priority **areas for CD include-** Pervasive & full spectrum ISR; Multi-domain C4; Asymmetric hard power; Freedom of access and Manoeuvre. **UK also proposes to withdraw few equipment and capabilities earlier than their life spans, including Challenger tanks, Warrior IFV, Typhoon aircraft, E-3D AEW&C and some Chinook helicopters.**

<sup>31</sup> ibid

<sup>32</sup> Defence in a Competitive Age, Ministry of Defence, Mar 2021, ISBN 978-1-5286-2462-6, [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/974661/CP411\\_-\\_Defence\\_Command\\_Plan.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/974661/CP411_-_Defence_Command_Plan.pdf)

## Creative CD Approaches for Indian Armed Forces

- **Survey By Delhi Policy Group<sup>33</sup>.** As per a limited sample survey carried out by the Delhi Policy Group, desirable distribution of resources for capability development in different domains could be: *land forces (24%), Navy (19%), Air Force (17%), situational awareness (ISR, Maritime Domain Awareness, Space) (11%), Asymmetric Domains (cyber, information warfare, legal warfare, etc.) (11%), R&D (10%), and CBRN (Nuclear) (8%)*. The study recommends that this distribution could be taken as a broad guideline *for planning acquisitions (ICDP/DCAP)*. The **suggested allocations, though a paradigm shift, are judicious and may be used as a frame of reference while formulating ICDP/DCAP.**
- **A Heuristic Model- Takshashila Institution<sup>34</sup>.** The authors have suggested a framework for military resource planning which distributes military resources to four suggested Integrated Theatres, two each maritime and continental. For each theatre, 13 different military instruments (which may be modified) have been assumed, ranging from infantry brigades, ships, missiles to aircraft carriers. **The model advocates a concept of usable power, and assumes five distinct levels of escalation**, ranging from localised tension to full scale limited war, wherein force is to be used appropriate to the situation. **The framework leverages two parameters for military planning - the employability of a military instrument (given the terrain & escalation level), and its operational importance (OI)**, which may be modified by experts. The model helps arrive at the **net utility of a military instrument.**

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33 Anil Ahuja & Arun Sehgal, "India's Defence Budget: Beyond the Numbers", Volume VI, Issue 4 February 10, 2021, accessed 25 July 2021, [https://www.delhipolicygroup.org/uploads\\_dpg/publication\\_file/indias-defence-budget-beyond-the-numbers-2209.pdf](https://www.delhipolicygroup.org/uploads_dpg/publication_file/indias-defence-budget-beyond-the-numbers-2209.pdf)

34 Prakash Menon & Pranav Valmeekekanathan, "M-RAF 1.0 - A Model to Allocate Resources Across India's Armed Forces", Discussion Document 2020-11 V1.0 - 30 July 2020, Takshashila Institution, accessed 25 July 2021, <https://takshashila.org.in/wp-content/uploads/2020/07/Military-Resource-Allocation-Framework-Discussion-Document-July-2020-v1.0-1.pdf>

The authors opine that this model is *designed for Long Term Integrated Military Planning and can provide a benchmark for allocation/investment for each military instrument and can assist in prioritisation for acquisition, trade-offs between instruments and distribution of capabilities between theatres.* The model is useful for prioritising inter-theatre allocation of military resources post due analysis. However, for *acquisition related decisions, the model needs to be suitably modified to integrate Military objectives/missions and derived capabilities, so as to surmise mitigation measures, including non-equipment solutions.*

### CD for the Indian Armed Forces- Suggested Pathways

Comparing the extant practice in India with the above models, the following observations and recommendations are germane:-

- **Salience of NSS.** There is *no articulated NSS and CD plans are not approved by the Cabinet/parliament, thus, the linkage between the Political/Military Outcomes (ends) and strategy (ways and means) is at best conjectural.* Analysts have observed that a military solution to India's challenges is often difficult to implement due to lack of resources, *yet the cost of increasing military resources is exceeded only by the bureaucratic and political resistance to providing the resources*<sup>35</sup>. The *promulgated NSS must end India's strategic ambivalence.*
- **Parliamentary Buy-In.** There is **no budgetary assurance beyond the current FY**, in contrast to the recommendation of the GoM in 2001. *MoF approved the 10th Defence Plan in its last year (2007), stopping the practice thereafter.* The Annual Defence Budget fails to invite a debate in the Parliament. The DPC, mandated to develop CD plans *in*

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35 Stephen Coen and Sunil Dasgupta, "Arming Without Aiming: India's Military Modernisation", Brookings Institution Press, Washington, D.C. 2010, pp. 185

*consonance with the likely resource flows, can at best assume the flows. Non-approval of the ICDP and DCAP by the CCS/Parliament will dilute the political commitment, reducing these to bootless errands.*

- **Inter-Ministerial Synergy.** Creation of the DPC will finally ensure inter-ministerial collaboration. However, *synergy and role clarity between the NSA and the Defence Minister, will be critical.*
- **Parochial Service Interests.** The MoD has struggled with long term CD since 1992. The Services have been plagued by the perceived immutability and primacy of their roles and primacy as a responder to national security challenges. *Maximalist approaches to planning and prioritising has institutionalised their zero-sum approach. This needs to change.*
- **Balancing Ends and Strategy (Ways & Means).** The US has modified its strategy from fighting and winning in two major theatres of war to defeating an aggressor in one theatre, while denying the objectives or punishing an opportunistic aggressor in the second theatre (Ways). It has also reviewed her ambitions in the Middle East (Ends). The US is also downscaling few weapon programs (means). The UK is reducing land forces and retiring from service weapons before the expected life (means). **Such decisions are taken after due debate and approval of Congress/Parliament.** In India, big ticket deals *spasmodically garner political attention, but no intervention to balance ends/ways and means.* The models suggested by the DPG and Takshashila Institution merit analysis while formulating the ICDP/DCAP.
- **Projects and Programs with Cost Modelling.** Approval of the long term plans, with specific details of projects, programs and projected costs by the CCS/Parliament will **ensure a whole of the Nation buy-in.** *Allocating resources specifically*

for Space, Cyber, ICT, C4ISR, EW, Asymmetric Capabilities, Joint capabilities would address the emerging threats and align the industry and R&D efforts. Besides, specific timelines ensure **outcome delivery with accountability**. Financial prudence be ensured through **cost modelling**, a discipline we lack. Cost Audit and Balance of Investments<sup>36</sup> by the BAE Systems (UK) and the US DoD Cost Modelling Guide<sup>37</sup> provide a good insight.

- **Plan and Technology Horizons.** Though the horizon of the proposed ICDP has been reduced to 10 years, outlining **programs with costs over a 10-15 year horizon**, though challenging, is the **best way to align and incentivise indigenous R&D and private industry**.
- **Modernisation Vs Maintenance Costs.** Across the globe, **modernisation is being crowded** out by ever increasing expenses on operations and maintenance, largely due to increasing outgo on salary/pensions and upgrading the ageing systems. **This challenge requires innovative solutions. Prudent and validated manpower cuts could release human and capital resources for creation of new capabilities in domains like space, cyber, EW and joint structures/functions.**

### **Budgeting- Aligning The Outcomes, Outputs with Outlays**

- **Past Endeavours.** To move from **“inputs” towards “outputs”**, a **performance budgeting system** was introduced in **1969**, a **performance review was sought**, along with the annual Demands for Grants. **However, the MoD was exempted.**

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36 BAE Systems, Our Capabilities: Cost Modelling, <https://www.baesystems.com/en/cor-da-our-capabilities-cost-modelling>

37 DoD Cost Estimating Guide, Office of the Secretary of Defence, Cost Assessment and Program Evaluation December 2020; [https://cade.osd.mil/Content/CADE/files/MorinMemo/DoD\\_Cost%20Estimating%20Guide%20v1.0\\_Dec2020.pdf](https://cade.osd.mil/Content/CADE/files/MorinMemo/DoD_Cost%20Estimating%20Guide%20v1.0_Dec2020.pdf)



In 2003-4, Defence Services Estimates (DSE) Volume-II was introduced, which listed end user-wise sub-allocations. However, **this document does not reflect any programs or objectives**<sup>38</sup>. An **Outcome Budget Concept** was introduced in 2006, requiring Ministries to mention *measurable outcomes with budget documents*. *Some ministries, including MoD, were exempted, but were asked to carry out this exercise and voluntarily decide to place it in the public domain, fully or partially*<sup>39</sup>. *Presently, the MoD only provides an Annual Report for public information.*

- **India's Defence Budget Size-The Global Context.** India's defence allocation (including pensions) for FY 2021-22 is Rs.4.78 Lakh Crore (US\$ 65.5 billion). It is approximately 2.15% of GDP, and **excluding pensions**, approximately **1.63% of GDP**,<sup>40</sup> **the lowest since 1962**. In 2020, the *US spent \$778 billion, China \$252 billion and India \$72.9 billion, forming 39%, 13% and 3.7% of global share, respectively*<sup>41</sup>. Between 2011 to 2020, *China's and India's defence expenditures have grown 76% and 34% respectively*<sup>42</sup>. It is, thus, **evident that India's defence outgo is transparent and modest, despite being spurred by its two revisionist neighbours. This is substantiated by the allocations on the Capital head, as follows:-**

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38 CGDA, Army Manual, <https://cgda.nic.in/ifa/manuals/army.pdf>

39 P R Sivasubramanian, Defence Budget: Towards an Outcome and Programme Based System, Strategic Analysis, Vol. 30, No. 4, Oct-Dec 2006, [https://idsa.in/strategicanalysis/Defence-BudgetTowardsanOutcomeandProgrammeBasedSystem\\_prsivasubramanian\\_1006](https://idsa.in/strategicanalysis/Defence-BudgetTowardsanOutcomeandProgrammeBasedSystem_prsivasubramanian_1006)

40 Pandit Rajat. Union Budget: Defence budget hiked by just 1.4%, but more money for military modernization. The Times of India. February 01, 2021. <https://timesofindia.indiatimes.com/india/union-budget-defence-budget-hiked-by-just-1-4-but-more-money-for-military-modernization/articleshow/80631424.cms>

41 Diego Lopes da Silva, Nan Tian and Alexandra Marksteiner, Trends In World Military Expenditure 2020, SIPRI Fact Sheet, April 2021, [https://www.sipri.org/sites/default/files/2021-04/fs\\_2104\\_milex\\_0.pdf](https://www.sipri.org/sites/default/files/2021-04/fs_2104_milex_0.pdf)

42 *ibid*

## Service-wise Capital Allocations

Service	BE 2020-21 Rs Cr	RE 2020-21 Rs Cr	BE 2021-22 Rs Cr	% Change Over BE 2021	% Change Over RE 2021
Total	<b>113734</b>	<b>134510</b>	135060	18.8	0.4
Army	32392	33213	36481	12.6	9.8
Navy	26688	37542	33253	24.6	-11.4
Air Force	43281	55055	53214	22.9	-3.3

## Trends in India's Defence Budget

- As per the **15th Finance Commission (XVFC)**, the overall **defence expenditure (including pensions)** as a proportion of the Government expenditure varied between 15.5% to 17.8% during the period 2011-12 to 2020-21<sup>43</sup>. **However, for FY 2021-22, it is only 13.73% of the Government expenditure (including pensions).**
- **Trend Growth Rate (TGR)** for the period 2011-12 to 2020-21 for the **Defence Budget** is **9.6%**. However, for the **Revenue head TGR is 11%, largely due to higher outgo on salaries and pensions.** For the **capital head TGR, is merely 6.1%**<sup>44</sup>.
- **No Unspent Funds.** Since FY 2016-17, allotments on Capital head have been fully utilised<sup>45</sup>, except for FY-2020-21, due disruption of deliveries attributable to the pandemic. In fact, **an additional expenditure of Rs.20776.00 Crore (US\$ 2.84 billion)** had to be incurred on the Capital Head during the FY 2020-21, for operational reasons.

43 Finance Commission in Covid Times, Report for 2021-2026. Vol 1, Main Report, Oct 2020, Pg 335-336.

44 ibid

45 21st Report, Standing Committee on Defence (2020-21), 17th Lok Sabha, Demands For Grant (2021-22), 16 March 2021, [https://eparlib.nic.in/bitstream/123456789/800867/1/17\\_Defence\\_21.pdf#search=null%20Departmentally%20Related%20Standing%20Committees%20\[2020%20TO%202021\]](https://eparlib.nic.in/bitstream/123456789/800867/1/17_Defence_21.pdf#search=null%20Departmentally%20Related%20Standing%20Committees%20[2020%20TO%202021])

- **Committed Liabilities (CL).** *Approximately 90% of the defence capital budget in FY 2021-22 is likely to be utilised to meet CL.*<sup>46</sup> As per details reported to the **Standing Committee on Defence (SCOD)** (2019-20), *the shortfall in funds sought for meeting CL, despite being the first charge, were as under*<sup>47</sup>:-

Year	Demand (For CL)Rs Cr	Allotted (For CL) Rs Cr	Shortfall Rs Cr
2016-17	73553	62619	<b>10993</b>
2017-18	91382	68965	<b>22417</b>
2018-19	110044	73883	<b>36161</b>
2019-20	113667	80959	<b>32709</b>

- **Non-Salary Revenue Expenditure.** The expenditure on stores and capital procurements has reportedly declined from 35% in 2010-11 to 26% of the total in 2019-20, due to rising manpower costs<sup>48</sup>. *Falling non-salary defence allocation will adversely affect readiness.* In fact, in FY **2020-21, additional Rs 9286 Crore had to be allotted on the Revenue (Non-salary) head** to meet operational requirements<sup>49</sup>.
- **Aligning AAP to Outcomes. Proposals in the AAP (Part A) can not exceed the allocated budget.** As per DAP-2020, schemes under ‘Make-II’, ‘Make-III’ and ‘Innovation’ categories are deemed to be automatically included

46 Raghuvanshi Vivek. India releases details of new defense budget. Defense News. February 03, 2021. <https://www.defensenews.com/global/asia-pacific/2021/02/02/india-releases-details-of-new-defense-budget/>

47 Third Report, Standing Committee on Defence (2019-20) (17th Lok Sabha), Demand No 20, Dec 2019, [https://eparlib.nic.in/bitstream/123456789/787668/1/17\\_Defence\\_3.pdf#search=null%20Departmentally%20Related%20Standing%20Committees](https://eparlib.nic.in/bitstream/123456789/787668/1/17_Defence_3.pdf#search=null%20Departmentally%20Related%20Standing%20Committees)

48 Armaan Bhatnagar, India’s Defence Spending in 7 Charts, Times of India, 30 Jan 2021, <https://timesofindia.indiatimes.com/india/indias-defence-spending-in-7-charts/article-show/80600625.cms>

49 21st Report, Standing Committee on Defence (2020-21), 17th Lok Sabha, Demands For Grant (2021-22), 16 March 2021, [https://eparlib.nic.in/bitstream/123456789/800867/1/17\\_Defence\\_21.pdf#search=null%20Departmentally%20Related%20Standing%20Committees%20\[2020%20TO%202021\]](https://eparlib.nic.in/bitstream/123456789/800867/1/17_Defence_21.pdf#search=null%20Departmentally%20Related%20Standing%20Committees%20[2020%20TO%202021])

in AAP, after AoN. There are also provisions to include emergent requirements. The outgo on CL, could vary, too, due to delayed deliveries or exchange rate variations. Though DAP provisions have the desired flexibility, the process inherently *defies predictability*. Moreover, certain schemes in AAP may not even form part of the Five Year Defence Plan. Therefore, to ensure that procurement decisions stay *aligned with NSS and priorities, the AAP, which finally drives acquisitions, should have a “before the act” oversight, rather than SCOD mechanism, which is retrospective.*

### Underwriting Outcomes (ICDP/DCAP) with Outlays (Budget)

- **Budgetary Projections- Capital.** The Ministry of Finance (MoF) has indicated an overall TGR of 10.3% for defence expenditure during the period 2021-26<sup>50</sup>. The MoD, while maintaining an overall TGR of 10.5%, has assumed a TGR @16% on the Capital head, as against the last 10 years trend of TGR of 6.1% (XVFC), with an estimated allocation of Rs. 9.01 lakh crore against a projection of Rs. 17.46 lakh crore on the Capital Head for 2021-26<sup>51</sup>.
- **Budgetary Projections- Revenue.** However, the MoD has lowered the corresponding Revenue TGR to 7% for the period 2021-26, as against the current trend of 11% (XVFC)<sup>52</sup>. *Adequacy of revenue budget* to underwrite operations, maintenance and sustaining legacy systems *is a critical requirement*. While measures to reduce the outgo on salary/pensions are under serious examination, these are unlikely to have an impact in the near future. **The Revenue TGR of merely 7% projected by the MoD to the XVFC needs to be analysed.**

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50 Finance Commission, op. cit. pp 342.

51 *ibid*, pp 335-345

52 *ibid*

- **Non-Lapsable Capital Fund.** The MoD has indicated an existing shortfall of **Rs 2.47 lakh crore (Capital) for the period 2017-18 to 2020-21<sup>53</sup>**. The *anticipated shortfall* on Capital head during **2021-26 is Rs 8.45 lakh Crore<sup>54</sup>**. Based on the average shortfall on capital account for the period 2016-17 to 2020-21, *the MoD has recommended an additional annual non-lapsable requirement of Rs 55000 Crores to the XVFC.<sup>55</sup>*

### Fund Flows-Assumptions Vs Assurance

- With constraints imposed by a slow economic recovery post the pandemic, compounded by competing legitimate demands in health and infrastructure, it is axiomatic that *assuring fund flows for defence over the next 5 years, though a critical necessity, is fraught with uncertainties*. Nonetheless, a few pragmatic actions are summarised below.
- **Business as Usual- Accept the Risks.** As per the Defence Minister, India plans to spend \$130 billion (Over Rs. 9, 63,000 Crores) over the next 7 years on defence modernisation<sup>56</sup>. This indicates an average modernisation outlay of Rs137900 Cr per year, almost at par with BE for 2021-22 ie Rs 135060 Cr. If this fund flow is indicative, it falls Rs 2.1 Lakh Crore short of the MoD's anticipated Rs 9 lakh Crores over 2021-26, and *way below the TGR of 16% assumed by the MoD*. The *MoD needs to apprise the CCS/Parliament about the unmet CL, modernisation requirements, along with the associated strategic risks and mitigation measures*.

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53 ibid

54 ibid

55 ibid, pp. 345

56 Press Information Bureau, GoI, "Aero-India 2021 gets off to a flying start", 3 Feb 2021, <https://pib.gov.in/PressReleseDetail.aspx?PRID=1694848>

- **Assume Overall TGR Below 10.3%.** The report “**XV Finance Commission in Covid Times**” was submitted in November 2020. However, the **TGR of 10.3% for Defence expenditure indicated to the Commission may not be realised in the initial years**, and even assuming the TGR of 9.6%, as for the last decade, may not be feasible. Therefore, a **pragmatic assumption of TGR of 7-8%** be taken as a planning norm, and the CCS/Parliament be apprised of the **shortfall below the estimated/projected funds**, associated risks and mitigation measures.
- **ICDP/DCAP- Pragmatic Projections.** *The ICDP for the period 2022-2032 and DCAP (2022-27), may suggest a different force structure and capabilities, and hence realistic projections for modernisation, instead of the projected Rs 17.45 lac Crore for 2021-26 (XVFC).* However, it is **unlikely to have a major impact the outgo on CL for the period 2022-27, which will see realisation of delayed deliveries.** It is important that **realistic TGR be assumed for Capital and Revenue heads, and not 16% & 7% respectively**, which appear unrealistic vis-a-vis 6.1% and 11% of the last decade. **The adequacy of fund flows with both assumptions explained above should be assessed, and the CCS/Parliament be apprised of the unmitigated capability gaps, unmet CL, with associated strategic risks.**
- **Assurance and Predictability with A Non-lapsable Fund.** Creation of such a fund in the interim budget in 2003, came to a naught as the Government fell. In 2016, the MoD raised the **necessity of such a fund with the SCOD.** In March 2018, the SCOD recorded that the **MoF had rejected the proposal**, citing several reasons, inter alia violation of Article 266 (1) of the Constitution<sup>57</sup>. Recognising the need

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57 Ajai Shukla, “FinMin Shoots Down Proposal for Non-Lapsable Defence Modernisation Fund”, Business Standard, 21 March 2018,



for a long term commitment of funds to facilitate realistic planning, the XVFC has recommended the creation of a non-lapsable Modernisation Fund for Defence and Internal Security (MFDIS), to bridge the gap between projected budgetary requirements and allocations, to be utilised for modernisation of defence services, capital investment for police forces and welfare fund for soldiers and paramilitary personnel. XVFC has pegged the fund at Rs.2,38,354 Crore over 2021-2026, with an annual cap of Rs 51000 Crore<sup>58</sup>. *The Corpus, to be placed in a Public Fund account commencing 2021-22, is proposed to be sourced from the CFI @yearly 1% of revenue receipts; proceeds of monetisation of surplus defence land/ payment from State Governments for land taken already, and disinvestment proceeds of DPSEs. As per the clarification provided to the SCOD, the MoF has proposed the following mechanism<sup>59</sup>, which may defeat the very purpose:*

- The proceeds from monetisation/disinvestments be received in the CFI, of which **50% will be transferred yearly to MFDIS, after due appropriation by Parliament.**
- Funds be utilised for Married Accommodation, purchase of stores under capital head from within India, as *per extant procedures.*
- Funds would be expended only after the normal budgetary grant has been exhausted. This could *likely happen by Jan-March, leaving little time for complying with procedures.*

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58 Finance Commission, *ibid*, pp 351

59 21st Report, Standing Committee on Defence (2020-21), 17th Lok Sabha, Demands For Grant (2021-22), 16 March 2021, [https://eparlib.nic.in/bitstream/123456789/800867/1/17\\_De-fence\\_21.pdf#search=null%20Departmentally%20Related%20Standing%20Committees%20\[2020%20TO%202021\]](https://eparlib.nic.in/bitstream/123456789/800867/1/17_De-fence_21.pdf#search=null%20Departmentally%20Related%20Standing%20Committees%20[2020%20TO%202021]), pp 11

- *In case of non-utilisation for 3 years from the date of crediting, the sums will be credited back to CFI.*

### **Nurturing the Defence Industrial Ecosystem**

- **Make In India- Defence.** An inspirational target of 70% indigenous content (IC) has been pursued for decades. Though arms imports have reportedly decreased by 33 per cent between 2011–15 and 2016–20<sup>60</sup>, India has been a leading arms importer for over decades. To curb import dependence, **procurement from the domestic industry has been enhanced from 58% to 63% (Rs 70,221 Crores) for FY 2021-22, of which, 25% is earmarked for the private sector.** In August 2020 and May 2021, two lists were promulgated, each containing 101 and 108 items respectively, **explicitly barring their import**, progressively over the period 2020-2025. ***It is a leap of faith to enhance self-reliance, with a hope that the defence forces will not have bear time, cost or performance penalties.*** It also ***presumes that the yearly cash outgo on CL, over the next 5 years, will be broadly 63% indigenous.*** Analysis of details for the period 2010-11 to 2020-21 (11 Years) **indicates overall 71% indigenous capital expenditure, though for the Air Force and Navy, it is 53% and 39% non-indigenous, respectively<sup>61</sup>.** Based on its outstanding deliveries of systems/weapons, ***India's expenditure on foreign arms is expected to increase over the coming 5 years<sup>62</sup>.*** Therefore, if *only* 2015-16 to 2020-21 are analysed, ***the Air Force share of non-indigenous expenditure is 69.7% and the Navy's 49.1%.*** Including schemes in the

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60 International arms transfers level off after years of sharp growth; Middle Eastern arms imports grow most, says SIPRI, 15 March 2021, <https://www.sipri.org/media/press-release/2021/international-arms-transfers-level-after-years-sharp-growth-middle-eastern-arms-imports-grow-most>

61 21st Report, op.cit. pp 18

62 International Arms Transfers, SIPRI, 2021, op. cit.

pipeline, **the outgo could be on** Rafale fighters, M777 guns, S-400, AK-203 assault rifles, lease of the second SSBN, Kamov-226T helicopters, Mi-17 helicopters, MH-60R, MQ-9 UAVs, AWACS, AEW&C, 155mm Towed Howitzers and Light Tanks, besides expenditure on lease and on critical munitions. Commonalities with the “*Wish List*” tabulated by Stephen Cohen in 2010<sup>63</sup> **underscore the glacial pace of modernisation.** While **ongoing efforts towards indigenisation are laudable, desirable and indeed promising,** capital **allocation for indigenous schemes should factor non-indigenous component of CL realistically,** at least over the next 5 years. Moreover, *the choice of the defence systems must remain with the Armed Forces based on user preference and tactical and operational doctrines, as recommended by the Dhirendra Singh Committee*<sup>64</sup>.

- **Responsive Defence Industrial Base.** The global trend in weapon and systems is shifting away from traditional and legacy platforms towards convergent disruptive technology driven systems that enable Network Centric warfare and straddle Multi-domain operations. Defence planning, postures and doctrines of the Indian armed forces are also evolving to leverage “quality” (C4ISR, EW, precision and lethality) over quantity (numbers). However, given the looming threat of a collusive two front threat, force size trade-offs, **without due experimentation, could create new risks.** Our strategies need to be based on an **innovative mix of capacities and capabilities which include both emerging technology driven systems as well as traditional platforms.** The *Indian defence industry has come of age and is showing promise in both industrial age as well as the information age*

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63 Stephen Coen and Sunil Dasgupta, “Arming Without Aiming: India’s Military Modernisation”, Brookings Institution Press, Washington, D.C. 2010, pp 21-22

64 Committee of Experts for Amendment to DPP-2013 Including formulation of policy framework, July 2015, <https://www.mod.gov.in/sites/default/files/Reportddp.pdf>

systems. Enhanced FDI of 74% in DAP 2020 adequately incentivises domestic production through collaboration with foreign OEMs. ***An early promulgation of the ICDP with budgetary assurance through MFDIS and revised TPCR would create the optimal civil-military fusion and synergy.*** Elaborate measures have been suggested by eminent analysts<sup>65</sup>. The Defence Production and Export Promotion Policy (DPEPP)-2020 has already ***cleared the decks for boosting the rising trend in defence exports.*** Recent decisions to buy or lease systems of foreign origin only in small numbers, whether rifles, LMGs, UAVs, helicopters or fighter jets, is proof of the “risk” taken to safeguard future opportunities for indigenous solutions.

### **Aligning Outcomes with Outgo- Suggested Pathways**

***Defence modernisation decisions have been historically spasmodic, driven by conflicts and crises.*** Nothing exemplifies the myopia better than the ***delayed raising of the Mountain Strike Corps till jolted by LAC intrusions (2013-14), further stretching the raising, freezing it in 2018 and finally resurrecting it in 2020, post the Eastern Ladakh stand-off!*** This must change. ***The pandemic stricken economy must not under-write irrational defence planning.*** Faced with burgeoning modernisation demands, recapitalisation of legacy equipment and voids in joint capabilities like C4ISR, cyber, EW and space, we need ***clear-eyed trade-off decisions in defence planning and budgeting.*** ***The challenge demands bold, innovative, risk-informed decisions, buttressed by an affordable outgo.***

- **Force Structure.** Meeting ever increasing commitments, with constrained budgets- ***the cliched “do-more-with-less” paradigm, has stretched the force.*** Early promulgation

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65 Dhruva Jaishankar, “The Indigenisation of India’s Defence Industry”, Brookings India Impact Series 082019-01, 2019, Brookings Institution India Center; <https://www.brookings.edu/wp-content/uploads/2019/08/The-Indigenisation-of-India-Defence-Industry-without-cut-mar-for-web.pdf>

of **NSS** will ensure alignment of force **structures with pragmatic strategies to deter our adversaries-** by denial or punishment (severity), objectives- territorial or counter-force; grey zone strategy & response; defence postures; sea denial or control, primary/secondary front; punitive strikes, air dominance or local superiority, information dominance/assurance etc. **Accepting “likely” scenarios over “worst case” ones, where the “severity of impact” is less, is also a choice.** Structural changes in higher defence organisations to usher jointness be underwritten by ownership of all stakeholders, **winning the “fight within”**. Learning experiences from Joint Logistic and Training endeavours would be prudent<sup>66</sup>. **The self-interpreted and immutable service centric “roles” need to be reviewed and promulgated with despatch, ensuring role clarity and complementarity. “Service Centric” interpretation of multi-domain operations be nipped in the bud and Joint test bedding of concepts be commenced right away.** The **cost of new structures** for space, cyber, Special Forces, Joint C4ISR, Joint Air Defence, Joint logistics and joint training, **especially equipment/software and specialised manpower be ascertained through cost modelling. Capabilities to buttress maritime interests be evaluated in terms of urgency and importance, vis-à-vis proximate territorial challenges.** Trade-off options between manned vs unmanned platforms, **aircrafts vs stand-off weapons** or **air defence systems** will potentially balance the force structure and associated costs.

- **Modernisation.** ICDP/DCAP need to be evolved innovatively and be *approved by the CCS/ Parliament, to ensure commitment and political oversight* in **aligning the**

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66 Arun Sahni, “Integrated Theatre Commands- Is It the Right Time for Proposed Restructuring?”, Defstrat, Vol 15 Issue 3 Jul – Aug 2021, [https://www.defstrat.com/magazine\\_articles/integrated-theatre-commands-is-it-the-right-time-for-proposed-restructuring/](https://www.defstrat.com/magazine_articles/integrated-theatre-commands-is-it-the-right-time-for-proposed-restructuring/)

*military means and ways for meeting politically decided ends. A premium be placed on Interoperability while prioritising* inter-Service and intra-Service capabilities **based on cost modelling**. Forecasting budgetary resources across multi-domain capabilities over a 10 year horizon, based on likely TGR, will enforce pragmatism and discipline. The Takshashila and DPG models discussed above be factored while evolving the ICDP. ***AAP must be subjected to CCS/Parliament oversight prospectively.*** Considering the centrality of precision, lethality and information dominance, the following capabilities areas needs to be prioritised:

- Joint C4ISR, networked sensors and quantum communications.
- Enhanced EW, Space and Cyber capabilities.
- Robust Joint tactical SDR networks with cloud storage.
- Enhancing Agility and mobility, reducing size of platforms and entities.
- Smart & intelligent munitions.
- R&D and innovation in disruptive and niche technologies.
- Interoperability of manned, unmanned and autonomous systems.
- Precise, lethal and long range fires.
- Non-lethal and non-kinetic systems for Grey-zone responses.
- **Readiness.** *Readiness reporting needs to be made institutional with quantified assessment of the ability to mobilise, deploy, and fight within operationally viable timeframes. Training needs to leverage simulators and joint field exercises. Allocations on the revenue (non-salary)*



*head must address the requirements. Progressively relieving defence forces from internal security tasks should be achieved in a time bound manner.*

- **Sustenance.** *The number of days of war reserves for equipment and munitions/missiles be assessed pragmatically, considering shelf life. Administration, IT and logistics share commonalities across Services, where jointness can deliver economies of scale. For logistic functions, end to end process redesign, especially for the repairs function, prevents wastage and saves manpower. Tri-Service inventory must be standardised on priority and managed through a shared ERP system. Efficient **Life Cycle Support approaches like “availability contracting”**, in which the contractor commits to deliver a specific output, must be adopted.*
- **Budgetary Process & Allocations.** *MFCDIS Fund must be created without further delay and restrictive conditions recommended by the MoF as regards usage be waived. Initially, insufficient monetisation of defence land for MFCDIS be compensated and once exhausted, alternative sources be examined. While promoting indigenisation in new schemes, oversight be maintained on Capital outlay, to cover non-indigenous CL. TGR of 7% for the Revenue head (2021-26) assumed by the MoD be subjected to a reality check, lest the **non-salary component shrinks, adversely impacting readiness.** MoD must conform to the guidelines for the outcome based reporting, for internal audit, to begin with.*

***There is no easy way out of the universal CD dilemma- balancing indigenisation and modernisation, the proximate and the future threats.*** There are no silver bullets in defence planning and budgeting. Transforming both these multi-disciplinary processes would be demanding. ***What is important is to stay invested in driving the change from***

***“the top”, towards a disciplined approach to defence policy-making, set milestones and ensure accountability of stakeholders. Procrastination in adopting effective mitigation strategies to address concurrent scenarios and avoiding hard trade-off choices in force structures or budgetary commitments, will only make the problem harder for future planners and stakeholders.***

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